



AMENDMENT

Please amend the claims as follows:

100. (Twice Amended) A method of regulating expression of a desired protein or RNA in an animal, said method comprising:

administering to said animal a pharmacological dose of a ligand which binds to a mutated steroid receptor superfamily ligand binding domain,

wherein said animal contains:

(a) a first nucleic acid cassette which comprises a promoter transcriptionally linked to a mutated receptor protein coding sequence,

wherein said mutated receptor protein coding sequence comprises a nucleic acid sequence encoding a mutated receptor protein which regulates the transcription from a molecular switch promoter, and wherein said mutated receptor protein comprises:

a DNA binding domain which binds said molecular switch promoter;

the mutated steroid hormone receptor superfamily ligand binding domain, which is distinct from a naturally occurring ligand binding domain;

a transactivation domain which causes transcription from said molecular switch promoter when said mutated receptor protein is bound to said molecular switch promoter and to the ligand which is an antagonist for a nonmutated receptor protein; and

(b) a second nucleic acid cassette comprising a nucleic acid encoding the desired protein or RNA transcriptionally linked to said molecular switch promoter; wherein administration of said ligand regulates expression of said desired protein or RNA in said animal.

113. (Amended) The method of claim 100, wherein the mutated steroid hormone receptor ligand binding domain binds a compound selected from the group consisting of 5 α -pregnane-3,2-dione; 11 β -(4-dimethylaminophenyl)-17 β -hydroxy-17 α -propinyl-4,9-estradiene-3-one; 11 β -(4-dimethylaminophenyl)-17 α -hydroxy-17 β -(3-hydroxypropyl)-13 α -methyl-4,9-gonadiene-3-one; 11 β -(4-acetylphenyl)-17 β -hydroxy-17 α -(1-propinyl)-4,9-estradiene-3-one; 11 β -(4-dimethylaminophenyl)-17 β -hydroxy-17 α -(3-hydroxy-1 (Z)-propenyl-estra-4,9-diene-3-one; (7 β ,11 β ,17 β)-11-(4-dimethylaminophenyl)-7-methyl-4',5'-dihydrospiro(ester-4,9-diene-17,2'(3'H)-furan)-3-one; (11 β ,14 β ,17 α)-4',5'-dihydro-11-(4-dimethylaminophenyl)- (spiroestra-4,9-diene-17,2'(3'H)-furan)-3-one.

135. (Amended) A method of regulating expression from a desired protein or RNA in an animal comprising:

administering to the animal a pharmacologic dose of a ligand that activates a molecular switch protein encoded by a first expression cassette comprised in the animal, wherein the activation of the molecular switch protein results in expression of the desired protein or RNA from a second expression cassette comprised in the animal, wherein the molecular switch protein comprises a mutated steroid hormone superfamily receptor ligand binding domain which is activated by the administered ligand but not by a native ligand for a corresponding wild type steroid hormone superfamily receptor ligand binding domain.